Department of Homeland Security
Office of Infrastructure Protection

Dean Checknita

Chief, Risk Development and Modeling Branch
Homeland Infrastructure Threat and Risk Analysis Center (HITRAC)

November 16, 2010

Homeland Security

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
16 NOV 2010		**00-00-2010 to 00-00-2010**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Challenges in Infrastructure Risk Management Analysis in a Distributed Risk Management Environment	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Department of Homeland Security,Homeland Infrastructure Threat and Risk Analysis Center (HITRAC),Risk Development and Modeling Branch,Washington,DC,20528**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES
Optimizing Investments in Critical Infrastructure Protection, 15?18 Nov 2010; ANSER Conference Center, Arlington, VA.

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**11**	

Challenges in Infrastructure Risk Management Analysis in a Distributed Risk Management Environment

Military Operations Research Society

Nexus of National Security and Homeland Security

Working Group 4, Session 1

Homeland Security

Agenda

- Distributed Risk Management Environment
- Security vs. Resilience
- Risk Avoidance vs. Risk Tolerance
- Way Ahead

Homeland Security

Distributed Risk Management Environment

The homeland security “enterprise” refers to the collective efforts and shared responsibilities of Federal, State, local, tribal, territorial, nongovernmental, and private-sector partners — as well as individuals, families, and communities — to maintain critical homeland security capabilities. It connotes a broad-based community with a common interest in the safety and well-being of America and American society.

Quadrennial Homeland Security Review Report, February 2010

Homeland Security

Distributed Risk Management Environment (Cont.)

- There is an expectation of local, high-fidelity coverage throughout the Nation
- Much of the infrastructure and data are privately owned
- The NIPP taxonomy for administration does not correlate well with physical “systems of systems”
- The lack of consistency among systems increases the challenge in performing cross-sector analysis
- The network topology of the systems does not correlate with political boundaries

Homeland Security

Security vs. Resilience

- National Preparedness Goal Balances Security vs. Resilience
  - Resilience is a buzz word on the Hill
- Security
  - Something that secures: protection
  - Measures taken to guard against espionage or sabotage, crime, attack, or escape

– Merriam-Webster

Homeland Security

Security vs. Resilience (Cont.)

- Resilience
  - Ability of systems, infrastructures, government, business, and citizenry to resist, absorb, recover from, or adapt to an adverse occurrence that may cause harm, destruction, or loss of national significance
  - Capacity of an organization to recognize threats and hazards and make adjustments that will improve future protection efforts and risk reduction measures

– DHS Risk Lexicon

Homeland Security

Security vs. Resilience (Cont.)

Infrastructure Risk Management Continues to Mature

- Started with asset protection from terrorists: gates, guards, guns
  - Police/Security function
- Next evolution was understanding dependency on inputs to the asset
  - Police/Security Plus function
- Current evolution was understanding a nodes role within a system/network
  - Operations Analyst/Systems Engineer/Logistician function
- Programs stuck in Police/Security mode will not evolve

Homeland Security

Risk Tolerance

- **Risk Avoidance:** strategies or measures taken that effectively remove exposure to a risk

- **Risk Control:** deliberate action taken to reduce the potential for harm or maintain it at an acceptable level

- **Risk Tolerance:** degree to which an entity, asset, system, network, or geographic area is willing to accept risk

Homeland Security

Way Ahead

- Continue to collaborate and coordinate
- Look within organizations for systems analysis expertise
- Continue to work with private sector partners

Homeland Security

Homeland Security